

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1. (currently amended) A system ~~that manages~~ for managing central processing unit (CPU) resources in a ~~computer computing device,~~ the system comprising:

a control component ~~that analyzes~~ configured to analyze information associated with CPU resource allocation to determine whether a process is delinquent for utilizing a percentage of CPU resources above a ~~desired~~ predetermined threshold percentage;

a throttling component ~~that suspends~~ configured to suspend a delinquent process for a variable amount of time before resuming the process to reduce the percentage of CPU resources occupied by the delinquent process; and

a monitoring component ~~that monitors a~~ configured to monitor the delinquent process to provide real-time feedback information regarding CPU resource usage by the delinquent process.

Claim 2. (currently amended) The system of claim 1, wherein the throttling component is further configured to suspend and resume ~~suspends and resumes~~ an object comprising the delinquent process ~~if the process is comprised by an object, where an~~ wherein the object comprises at least one of a plurality of processes other process, a process group, and a process tree.

Claim 3. (original) The system of claim 2, further comprising an artificial intelligence component that makes inferences regarding an appropriate adjustment to suspension duration of the delinquent process to enhance throttling efficiency.

Claim 4. (currently amended) The system of claim 3 2, wherein the throttling component increases duration of the suspension period of the delinquent process if the delinquent process continues to occupy an ~~above threshold percentage of~~ CPU resources above the predetermined threshold percentage after suspension and resumption of the delinquent process.

Claim 5. (currently amended) The system of claim ~~[[4]]~~ 2, wherein the throttling component decreases duration of the suspension period of the delinquent process if the process occupies a ~~below threshold percentage of~~ CPU resources below the predetermined threshold percentage for an ~~insufficient~~ sufficient number of monitoring intervals.

Claim 6. (currently amended) A method for throttling a delinquent process that occupies more than a predetermined threshold percentage of central processing unit (CPU) CPU resources, the method comprising:

determining whether a process is delinquent for occupying more than ~~the a~~ a predetermined threshold percentage of CPU resources;

monitoring a ~~the delinquent~~ process determined to be delinquent for a fixed time period;

suspending the ~~entire~~ delinquent process for a variable time period to initiate throttling of the delinquent process; and

resuming the ~~entire~~ delinquent process to complete throttling of the delinquent process.

Claim 7. (currently amended) The method of claim 6, further comprising throttling an object if the object comprises a the delinquent process.

Claim 8. (currently amended) The method of claim 7 ~~6~~, further comprising determining whether the delinquent process is still delinquent after throttling by comparing CPU resource usage after throttling to the predetermined threshold percentage.

Claim 9. (currently amended) The method of claim 8, further comprising adjusting the duration of the suspension period of the delinquent process if the delinquent process is still delinquent.

Claim 10. (currently amended) The method of claim 9, wherein the magnitude of the adjustment to the suspension period is predetermined.

Claim 11. (currently amended) The method of claim 9, wherein ~~further comprising~~ ~~increasing~~ the duration of the suspension of the delinquent process is increased if the delinquent process is still delinquent.

Claim 12. (currently amended) The method of claim 8, further comprising determining whether the once delinquent process remains below the threshold CPU resource usage percentage for a predetermined ~~sufficient~~ time period if the once delinquent process is not delinquent after throttling.

Claim 13. (currently amended) The method of claim 12, further comprising ceasing monitoring of the once delinquent process if it is determined that the once delinquent process is not delinquent for a sufficient time period after throttling.

Claim 14. (currently amended) The method of claim ~~12~~ 9, wherein ~~further comprising~~ ~~decreasing~~ the duration of suspension of the delinquent process is decreased if it is

determined the process is not delinquent after throttling for an ~~insufficient~~ sufficient period of time.

Claim 15. (original) The method of claim 9, further comprising employing artificial intelligence techniques to infer an appropriate adjustment to the duration of suspension of the delinquent process if the process is still delinquent after throttling.

Claim 16. (original) The method of claim 15, further comprising inferring an appropriate adjustment to suspension duration of the delinquent process based at least in part on the magnitude of the monitored reduction in CPU resource consumption by the delinquent process after throttling.

Claim 17. (currently amended) The method of claim 7 6, wherein the predetermined threshold percentage of CPU resources is selected by an administrator.

Claim 18. (currently amended) The method of claim 17 6, wherein the predetermined threshold percentage is at least about 1%.

Claim 19. (currently amended) The method of claim 17 6, wherein the predetermined threshold percentage is at least about 5%.

Claim 20. (currently amended) The method of claim 17 6, wherein the predetermined threshold percentage is at least about 10%.

Claim 21. (currently amended) The method of claim 7, wherein the method is performed on at least one of a terminal server, a Windows server, a non-terminal server, a desktop PC, a laptop, and a handheld computing device.

Claim 22. (currently amended) A method for managing process utilization of central processing unit (CPU) ~~CPU~~ resources comprising:

determining whether a process is delinquent for occupying more than a predetermined percentage of CPU resources;

monitoring a the delinquent process determined to be delinquent;

determining whether an exemption from CPU throttling exists for the delinquent process; and

terminating monitoring of the delinquent process if ~~it~~ the delinquent process is exempt from CPU throttling.

Claim 23. (currently amended) The method of claim 22, wherein the method is performed on an object if the object comprises at least one delinquent process, where ~~an~~ the object further comprises at least one ~~of a plurality of processes~~ other process, a process group, and a process tree.

Claim 24. (currently amended) The method of claim 23, further comprising running the delinquent process for a fixed time period ~~if the process is delinquent~~.

Claim 25. (original) The method of claim 24, further comprising suspending the delinquent process for a variable time.

Claim 26. (original) The method of claim 25, further comprising resuming the process

after the suspension period.

Claim 27. (currently amended) The method of claim 26, further comprising determining whether the delinquent process is still delinquent after throttling by comparing the percentage of CPU resources occupied by the delinquent process after throttling to the predetermined threshold percentage.

Claim 28. (currently amended) The method of claim 27, further comprising adjusting the duration of the suspension period if the delinquent process is still delinquent after throttling.

Claim 29. (currently amended) The method of claim 28, further comprising increasing the duration of the suspension period if the delinquent process is determined to be consuming a greater percentage of CPU resources than the predetermined threshold percentage.

Claim 30. (original) The method of claim 29, further comprising increasing the duration of the suspension period by predetermined increments.

Claim 31. (original) The method of claim 29, further comprising making inferences regarding a most effective increment of increase to the suspension period duration.

Claim 32. (currently amended) The method of claim 31, wherein the inferences are based at least in part on a comparison of the percentage of CPU resources occupied by the process before and after throttling.

Claim 33. (currently amended) The method of claim 28, further comprising decreasing the duration of the suspension period if the once delinquent process is determined to be

consuming a lesser percentage of CPU resources than the threshold percentage for fewer than a predetermined number of monitoring intervals.

Claim 34. (original) The method of claim 33, the suspension period duration is decreased by predetermined increments.

Claim 35. (original) The method of claim 34, further comprising making inferences regarding a most effective increment of decrease to the suspension period duration.

Claim 36. (currently amended) The method of claim 35, the inferences are based at least in part on a comparison of the number of ~~if~~ intervals for which the process consumed CPU resources is at a percentage below the predetermined threshold percentage and the predetermined threshold number of intervals.

Claim 37. (currently amended) The method of claim 23, wherein the predetermined threshold percentage is selectable by an administrator.

Claim 38. (currently amended) The method of claim 23, wherein the exemption of the delinquent process from CPU throttling is based at least in part on at least one of an exemption of the delinquent process itself, an exemption of a user utilizing the delinquent process, and an exemption of the object comprising the delinquent process, if the delinquent process is comprised by ~~an~~ the object.

Claim 39. (currently amended) The method of claim 23, wherein the method is performed on at least one of a terminal server, a non-terminal server a Windows server, a desktop PC, a laptop, and a handheld computing device.

Claim 40. (currently amended) A system for managing central processing unit (CPU)

CPU resources, comprising:

means for determining whether a process is delinquent for occupying CPU resources
above a selectable predetermined percentage of CPU resources;

means for monitoring a the delinquent process determined to be delinquent;

means for suspending the delinquent process for a variable period of time; and

means for determining whether the process is still delinquent after suspension.

Claim 41. (original) The system of claim 40, further comprising means for varying the
duration of suspension of the delinquent process based at least in part on feedback/feed-
forward information generated by the means for monitoring.

Claim 42. (original) The system of claim 40, further comprising means to exempt at
least one of a process, an object, and a specified user, from CPU throttling.